過去問ライブラリー
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大阪大学
英語

問題

2019年度入試

【学部】　　文学部、人間科学部、外国語学部、法学部、経済学部、理学部、医学部、歯学部、薬学部、工学部、基礎工学部

【入試名】　前期日程

【試験日】　2月25日

【試験時間】　90分，文学部は105分，外国語学部はリスニングを含み120分

旺文社

1 次の英文(A)と(B)を読み，それぞれの下線部の意味を日本語で表しなさい。

(A) In December 1877, Thomas Edison made history by recording 'Mary Had a Little Lamb' on his phonograph and playing it back. This was not just 'an epoch in the history of science', it was a revolution for the human voice. <u>Before then, hearing someone talk was exclusively a live experience: you had to be listening as the sounds emerged from the speaker's mouth. We can read the text of great speeches that predate the phonograph, like Abraham Lincoln's Gettysburg Address, but how exactly the president delivered the lines is lost forever.</u> The phonograph captured the way things are said, and this can be just as important as the words themselves. When someone says 'I'm all right', the tone of their voice might in fact tell you they are *not* all right.

(B) In recent years, study after study examining exercise and weight loss among people and animals has concluded that, by itself, exercise is not an effective way to drop pounds. <u>In most of these experiments, the participants lost far less weight than would have been expected, mathematically, given how many additional calories they were burning with their workouts. Scientists involved in this research have suspected and sometimes shown that exercisers, whatever their species, tend to become hungrier and consume more calories after physical activity.</u>

2 （外国語学部志願者のみ）
次の英文を読んで，以下の設問に答えなさい。

①There is no such thing as the average person. This poses a particular problem for the designer, who usually must come up with a single design for everyone. The designer can consult handbooks with tables that show average arm reach and seated height, how far the average person can stretch backward while seated, and how much room is needed for average hips, knees, and elbows. *Physical anthropometry* is what the field is called. With data, the designer can try to meet the size requirements for almost everyone, say for the 90th, 95th, or even the 99th percentile. Suppose the product is designed to accommodate the 95th percentile, that is, for everyone except the 5 percent of people who are smaller or larger. That leaves out a lot of people. The United States has approximately 300 million people, so 5 percent is 15 million. Even if the design aims at the 99th percentile it would still leave out 3 million people. And this is just for the United States: the world has 7 billion people. Design for the 99th percentile of the world and 70 million people are left out.
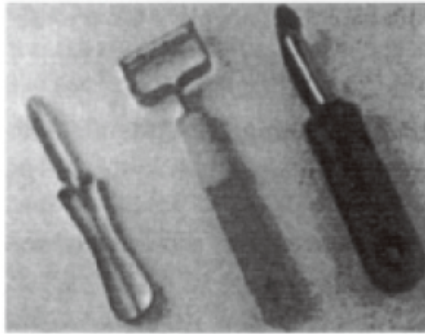

FIGURE 1. Three Vegetable Peelers. The traditional metal vegetable peeler is shown on the left: inexpensive, but uncomfortable. The OXO peeler that revolutionized the industry is shown on the right. The result of this revolution is shown in the middle, a peeler from the Swiss company Kuhn Rikon: colorful and comfortable.

②Some problems are not solved by adjustments or averages: Average a left-hander with a right-hander and what do you get? Sometimes it is simply impossible to build one product that accommodates everyone, so the answer is to build different versions of the product. After all, we would not be happy with a store that sells only one size and type of clothing: we expect clothing that fits our bodies, and people come in a very wide range of sizes. We don't expect the large variety of goods found in a clothing store to apply to all people or activities; we expect a wide variety of cooking appliances, automobiles, and tools so we can select the ones that precisely match our requirements. One device simply cannot work for everyone. Even such simple tools as pencils need to be designed differently for different activities and types of people.

Consider the special problems of the aged and infirm, the handicapped, the blind or near blind, the deaf or hard of hearing, the very short or very tall, or people who speak other languages. Design for interests and skill levels. Don't be trapped by overly general, inaccurate stereotypes.

③Many devices designed to aid people with particular difficulties fail. They may be well designed, they may solve the problem, but they are rejected by their intended users. Why? Most people do not wish to advertise their infirmities. Actually, many people do not wish to admit having infirmities, even to themselves.

When Sam Farber wanted to develop a set of household tools that his arthritic* wife could use, he worked hard to find a solution that was good for everyone. The result was a series of tools that revolutionized this field. For example, vegetable peelers used to be an inexpensive, simple metal tool, often of the form shown on the left in Figure 1. These were awkward to use, painful to hold, and not even that effective at peeling, but everyone assumed that this was how they had to be.

④After considerable research, Farber settled upon the peeler shown on the right in Figure 1 and built a company, OXO, to manufacture and distribute it. Even though the peeler was designed for someone with arthritis, it was advertised as a better peeler for everyone. It was. Even though the design was more expensive than the regular peeler, it was so successful that today, many companies make variations on this theme. You may have trouble seeing the OXO peeler as revolutionary because today, many have followed in these footsteps. Design has become a major theme for even simple tools such as peelers, as demonstrated by the center peeler of Figure 1.

Consider the two things special about the OXO peeler: cost and design for someone with an infirmity. Cost? The original peeler was very inexpensive, so a peeler that is many times the cost of the inexpensive one is still inexpensive. What about the special design for people with arthritis? The virtues for them were never mentioned, so how did they find it? OXO did the right thing and let the world know that this was a better product. And the world took note and made it successful. As for people who needed the better handle? It didn't take long for the word to spread. Today, many companies have followed the OXO route, producing peelers that work extremely well, are comfortable, and are colorful.

Would you use a walker, wheelchair, crutches, or a cane? Many people avoid these, even though they need them, because of the negative image they cast: the stigma. Why? Years ago, a cane was fashionable: people who didn't need them would use them anyway, twirling them, pointing with them, hiding brandy or whisky, knives or guns inside their handles. Just look at any movie depicting nineteenth-century London. Why can't devices for those who need them be as sophisticated and

fashionable today?

Of all the devices intended to aid the elderly, perhaps the most shunned is the walker. Most of these devices are ugly. They cry out, "Disability here." Why not transform them into products to be proud of? Fashion statements, perhaps. ⑤<u>This thinking</u> has already begun with some medical appliances. Some companies are making hearing aids and glasses for children and adolescents with special colors and styles that appeal to these age groups. Fashion accessories. Why not?

Those of you who are young, do not smirk. Physical disabilities may begin early, starting in the midtwenties. By their midforties, most people's eyes can no longer adjust sufficiently to focus over the entire range of distances, so something is necessary to compensate, whether reading glasses, bifocals, special contact lenses, or even surgical correction.

Many people in their eighties and nineties are still in good mental and physical shape, and the accumulated wisdom of their years leads to superior performance in many tasks. ⑥<u>But physical strength and agility do decrease, reaction time slows, and vision and hearing show impairments, along with decreased ability to divide attention or switch rapidly among competing tasks.</u>

For anyone who is considering growing old, I remind you that although physical abilities diminish with age, many mental capacities continue to improve, especially those dependent upon an expert accumulation of experience, deep reflection, and enhanced knowledge. Younger people are more agile, more willing to experiment and take risks. Older people have more knowledge and wisdom. The world benefits from having a mix and so do design teams.

Designing for people with special needs is often called ⑦*inclusive* or *universal design*. Those names are fitting, for it is often the case that everyone benefits. Make the lettering larger, with high-contrast type, and everyone can read it better. In dim light, even the people with the world's best eyesight will benefit from such lettering. Make things adjustable, and you will find that more people can use it, and even people who liked it before may now like it better.

The best solution to the problem of designing for everyone is flexibility: flexibility in the size of the images on computer screens, in the sizes, heights, and angles of tables and chairs. Allow people to adjust their own seats, tables, and working devices. Allow them to adjust lighting, font size, and contrast. Flexibility on our highways might mean ensuring that there are alternative routes with different speed limits. Fixed solutions will invariably fail with some people; flexible solutions at least offer a chance for those with different needs.

注　*arthritic: 関節炎にかかった

設問(1)　下線部①の内容を本文に即して，わかりやすく日本語で説明しなさい。
設問(2)　下線部②の意味を日本語で表しなさい。
設問(3)　下線部③の内容とその理由を，わかりやすく日本語で説明しなさい。
設問(4)　下線部④で述べられている peeler は，なぜ受け入れられたか，その理由を日本語で説明しなさい。
設問(5)　下線部⑤の内容を本文に即して，わかりやすく日本語で説明しなさい。
設問(6)　下線部⑥の意味を日本語で表しなさい。
設問(7)　下線部⑦の内容について，この段落ではどのような具体例が挙げられているか，わかりやすく日本語で説明しなさい。

3 （外国語学部以外の志願者のみ）
次の英文を読んで，以下の設問に答えなさい。

We have a problem to solve whenever we want to do something but lack the immediate means to achieve it. Most of the goals we reach in our everyday life do not require problem solving because we have a habit or some (i)prior knowledge that allows us to achieve them. (a)Getting to work, for example, requires a series of decisions and actions that might be quite complex but are generally routine and executed automatically. We know how to start our cars, which route to drive, and so on. But if the car will not start one morning, or our usual route is blocked, *then* we have a problem to solve. Like many real world problems these are *ill-defined*, lacking clear procedures or rules for their solution. For example, if the car will not start, a variety of strategies and solutions may be tried. If the battery is flat, we may jump-start it from another car. Or we may borrow a car from a partner or friend, or decide to use public transport.

Ill-defined problems may be quite easy for a human to solve but would be (A)next to impossible for a computer, unless it knew all the things that we know. By contrast, some problems — including many studied by psychologists — are (b)*well-defined*. This means that there is a clear set of rules that can be applied to get from where you are to where you want to be. (ii)Artificial problems usually have this nature. Examples would be an anagram to solve (which we may encounter in doing a crossword), a sudoku puzzle, or a chess problem which requires you to find a checkmate in three moves. If a problem is well-defined, a computer program can in principle be written to solve it.

Problem solving is clearly a key feature of human intelligence. Animals have generally evolved with fixed behaviour patterns. Some of the things they do may seem very clever. For example, birds and other animals may (iii)migrate thousands of miles, arriving (usually) in the right place. Honey bees can signal the location of nectar to their fellow creatures using a sophisticated code. Predator animals follow complex strategies to trap their prey, and so on. But these behaviours have been acquired slowly through evolution and cannot be varied by the individual animal. If the environment changes, it will not be possible for an individual to adapt its behaviour. While there is some evidence of intelligent use of tools to solve (iv)novel problems in some animals, the solution of novel problems is what generally marks our species out as different from both animals and earlier hominids. Neanderthals* had very sophisticated skills — in manufacturing tools and hunting prey, for example — but these skills were isolated from each other. (B)Hence, they could not adapt their tool making if different kinds of prey were encountered. By contrast, our own species, *Homo sapiens sapiens***, was able rapidly to adapt the design of artefacts to achieve changing goals, which is probably the reason that we are the only hominid species to make it to the present day.

Human intelligence does not, (C)in the main, rely on behaviour patterns fixed by evolution, and nor does it depend on habit learning. Humans can and have solved a whole range of novel problems, which is why we have been able to develop such advanced technologies. If we want to understand human intelligence, then we need to study how it is that humans can solve both ill-defined and well-defined problems. Not all problems have a uniquely correct solution, but that does not mean that we should give them up. For example, no human or machine can (v)guarantee to compute the best chess move in most positions, but they can certainly identify moves that are much better than others. (c)Our best scientists are like grandmasters, because science also cannot provide knowledge that is certainly true. Even great scientific theories, like Newton's mechanics, can be later shown to be incorrect or limited in certain respects. In Newton's case, the inaccuracies cannot be detected in systems moving much slower than the speed of light, and Newton's physics was close enough to the truth to allow all manner of technologies to be developed using its principles.

　*Neanderthals　ネアンデルタール人　　**Homo sapiens sapiens　ホモ・サピエンス・サピエンス，新人
設問(1)　本文中の下線部(i)〜(v)の単語に最も意味の近いものを，(イ)〜(ニ)から一つ選び，記号で答えなさい。
　(i)　prior
　　(イ)　precious　　　　　(ロ)　premature　　　　(ハ)　previous　　　　(ニ)　profound
　(ii)　Artificial
　　(イ)　Artistic　　　　　(ロ)　Fake　　　　　　(ハ)　Man-made　　　　(ニ)　Simple
　(iii)　migrate
　　(イ)　calculate　　　　(ロ)　inhabit　　　　　(ハ)　memorize　　　　(ニ)　travel
　(iv)　novel
　　(イ)　conventional　　(ロ)　fictional　　　　(ハ)　unemotional　　(ニ)　unusual
　(v)　guarantee
　　(イ)　afford　　　　　(ロ)　dare　　　　　　(ハ)　plan　　　　　　(ニ)　promise
設問(2)　本文中の下線部(a)の意味を日本語で表しなさい。
設問(3)　本文中の下線部(A)〜(C)の語句に最も意味の近いものを，(イ)〜(ニ)から一つ選び，記号で答えなさい。
　(A)　next to
　　(イ)　eventually　　　(ロ)　nearly　　　　　(ハ)　secondly　　　　(ニ)　successively

(B)　Hence
　(イ)　Besides　　　　　　(ロ)　Moreover　　　　　(ハ)　Nevertheless　　　　(ニ)　Therefore
(C)　in the main
　(イ)　for the most part　　　　　　　　　　　(ロ)　in this case
　(ハ)　that is to say　　　　　　　　　　　　　(ニ)　to the best of my knowledge

設問(4)　下線部(b) *well-defined* とはどういう性質を指すか，本文の内容に則して日本語で説明しなさい。

設問(5)　下線部(c) Our best scientists are like grandmasters では，「優れた科学者はチェスの名人と似ている」と述べています。なぜそのようなことが言えるのか，筆者の考えに基づいて日本語で説明しなさい。

設問(6)　本文のタイトルとして最も適当なものを，(イ)〜(ヘ)の中から一つ選び，記号で答えなさい。
　(イ)　Artificial intelligence and animal intelligence
　(ロ)　How to solve well-defined problems
　(ハ)　Human problem solving
　(ニ)　Neanderthals and *Homo sapiens sapiens*
　(ホ)　Newton's mechanics and grandmasters
　(ヘ)　Solutions to chess problems

4　「何事もあきらめが肝心」と言われますが，一方で，「あきらめなければ，必ず道は開ける」という言葉もあります。あなたの考えはどちらに近いですか。あなたの過去の経験を1つ挙げて，70語程度の英文で述べなさい。

5　(外国語学部志願者のみ)
　　次の日本文の下線部(1)〜(3)の意味を英語で表しなさい。

　NHKという大組織の中にいても，私はその頃から孤独を楽しんでいた。
　他の女性たちはというと，誘い合ってお茶を飲んだりご飯を食べに行ったり……。
　(1)私はほとんど参加しなかった。つき合いが悪いと思われそうで，最初のうちは一緒に行っていたが，人の噂話ばかりで全く無駄な時間だと思えたからである。
　そのうちに，私がスタジオで何か書いていることに気づいたディレクターが，外部のライターに出していた仕事を，そんなに好きならやってみたらと回してくれたので，番組の台本書きの仕事もくるようになった。
　多少つき合いは悪かったかもしれないが，そんな私を認めてくれる人もいた。
　(2)普通の会社であっても空き時間の使いようで，一人の時間を確保することはできる。それが仕事への反省ややる気につながり，将来への夢を育ててくれる。
　現在の仕事に全力をそそぐのはもちろんだが，その中でも空き時間を一人で考えることに使っていると，必ず将来につながる。
　私の場合，ともかく物書きになりたいという夢があったので，空き時間はすすんでそのために使った。(3)それが他人の目に留まり，「夢のハーモニー」*のための詩や物語を書くことが出来，あれは誰の作品？　と反響があると嬉しかった。それを続けているうちに，ある出版社から「面白いから本にしないか」という話が持ち込まれ，第一作が生まれたのだ。

(下重暁子『極上の孤独』)

　注　*著者がかつて関わったNHKのラジオ番組

6　(外国語学部以外の志願者のみ)
　　次の日本文(A)と(B)のそれぞれの下線部の意味を英語で表しなさい。ただし，(B)では，**文学部の志願者は(イ)**を，**文学部以外の学部の志願者は(ロ)**を選んで解答しなさい。

(A)　(すべての学部の志願者)
　油井にとって宇宙ステーションから見た地球や星々は，想像をはるかに超える美しさであった。「あの薄い窓を隔てた外側は死の世界なんですね。宇宙の闇はあまりに深く，そして，その死の世界に言葉にならないほど美しい地球があるんです。とりわけ私にその感情を呼び起こさせたのは，地球を取り巻く大気の薄さでした。周囲は真っ暗な死の世界であるのに，地球は生物で満ち溢(あふ)れている。」

(B)
(イ)　**(文学部の志願者)**
　言葉は必ず，誰かから習っているのであって，その人だけのユニークな部分は，ほぼゼロなのです。使う言葉も，だいたい辞書に載っているような，決まった意味のものを使うことになっている。文法も，ほかの人がわかるように言わなければならないから，特に変わったところはない。語彙(ごい)も文法も，その人だけの独自なところは，まあ，ないのです。誰でも言いそうなことばかり毎日言っているのに，なぜ，その人独自のユニークさが現れているのだろう。

(ロ)　**(文学部以外の学部の志願者)**
　自分が読みたい本を読む，これが私の読書の鉄則ですが，その際に，間口(まぐち)をできるだけ広くしておいたほうがいいとも思っています。
　本との出会いは，ある種，宝物を掘り出すようなものです。宝はどこに埋まっているかわかりません。いつもと違う道を歩いていて，石ころに蹴躓(けつまず)いて倒れたら，そこに宝が落ちていたなんてこともあるかもしれない。それゆえ，少しでも興味のある分野の本なら，当面の仕事や勉強に役に立たなくても，まずは手に取ってみるくらいに「心を開いていること」が大切です。

7　(外国語学部志願者のみ　リスニング問題・解答)省略